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DATE: Sunday, September 17, 2006

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<input type="checkbox"/>	L7	l6 and (nafion or sulfonic acid)	2
<input type="checkbox"/>	L6	l5 and hydrogen peroxide	16
<input type="checkbox"/>	-L5	((oxidation or oxidizing) near5 aldehyde with carboxylic acid).ti.	224
<input type="checkbox"/>	L4	(oxid\$7 near5 aldehyde with carboxylic acid).ti.	184
<input type="checkbox"/>	L3	L2 and (sulfonic acid or nafion)	41
<input type="checkbox"/>	L2	L1 and catalyst	147
<input type="checkbox"/>	L1	(prepar\$3 or produc\$4 or mak\$3 or synthesiz\$3 or manufactur\$3) with carboxylic acid same hydrogen peroxide same aldehyde	213

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NEWS 16 AUG 28 ADISCTI Reloaded and Enhanced  
NEWS 17 AUG 30 CA(SM)/CAplus(SM) Austrian patent law changes  
NEWS 18 SEP 11 CA/CAplus enhanced with more pre-1907 records

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=> s ep 0320346/pn  
L1 1 EP 0320346/PN  
(EP320346/PN)

=> d 11 iall

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 1989:632288 CAPLUS  
DOCUMENT NUMBER: 111:232288  
ENTRY DATE: Entered STN: 23 Dec 1989  
TITLE: Preparation of hydroxylated aromatic compounds by the Baeyer-Villiger reaction  
INVENTOR(S): Gubelmann, Michel  
PATENT ASSIGNEE(S): Rhone-Poulenc Chimie SA, Fr.  
SOURCE: Eur. Pat. Appl., 12 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: French  
INT. PATENT CLASSIF.:  
MAIN: C07C037-055  
CLASSIFICATION: 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 320346	A2	19890614	EP 1988-403044	19881202 <--
EP 320346	A3	19910502		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
FR 2624507	A1	19890616	FR 1987-17323	19871211
FR 2624507	B1	19900615		
JP 01190645	A2	19890731	JP 1988-308979	19881208
US 4950809	A	19900821	US 1988-281408	19881208
CA 1303065	A1	19920609	CA 1988-585569	19881209
PRIORITY APPLN. INFO.:			FR 1987-17323	A 19871211

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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EP 320346	ICM	C07C037-055
	IPCI	C07C0037-055 [ICM,4]; C07C0037-00 [ICM,4,C*]
	IPCR	C07C0037-00 [I,C*]; C07C0037-055 [I,A]
FR 2624507	IPCI	C07C0039-27 [ICM,4]; C07C0037-01 [ICS,4]; C07C0037-00 [ICS,4,C*]; C07C0039-00 [ICS,4]; C07C0039-08 [ICS,4]; C07C0039-15 [ICS,4]; C07C0041-18 [ICS,4]; C07C0041-00 [ICS,4,C*]; C07C0043-295 [ICS,4]; C07C0043-00 [ICS,4,C*]
	IPCR	C07C0037-00 [I,C*]; C07C0037-055 [I,A]
JP 01190645	IPCI	C07C0037-055 [ICM,4]; C07C0037-00 [ICM,4,C*]; B01J0027-02 [ICS,4]; B01J0027-16 [ICS,4]; B01J0027-14 [ICS,4,C*]; B01J0031-02 [ICS,4]; B01J0031-04 [ICS,4]; C07C0039-08 [ICS,4]; C07C0039-15 [ICS,4]; C07C0039-27 [ICS,4]; C07C0039-00 [ICS,4,C*]; C07C0041-26 [ICS,4]; C07C0041-00 [ICS,4,C*]; C07C0043-295 [ICS,4]; C07C0043-00 [ICS,4,C*]; C07B0061-00 [ICA,4]
US 4950809	IPCI	C07C0037-60 [ICM,5]; C07C0037-00 [ICM,5,C*]
	IPCR	C07C0037-00 [I,C*]; C07C0037-055 [I,A]
	NCL	568/741.000; 568/771.000; 568/803.000
CA 1303065	IPCI	C07C0037-56 [ICM,5]; C07C0037-00 [ICM,5,C*]; C07C0039-27 [ICS,5]; C07C0039-00 [ICS,5,C*]; C07C0043-295 [ICS,5]; C07C0043-00 [ICS,5,C*]
	IPCR	C07C0037-00 [I,C*]; C07C0037-055 [I,A]
OTHER SOURCE(S) :		CASREACT 111:232288; MARPAT 111:232288

**ABSTRACT:**

The title compds. were prepared by Baeyer-Villiger reaction of aryl ketones or aldehydes. Treatment of Ac<sub>2</sub>O with aqueous H<sub>2</sub>O<sub>2</sub> containing H<sub>2</sub>SO<sub>4</sub>, followed by reaction with p-phenylbenzaldehyde, gave 91% p-phenylphenol.

SUPPL. TERM:	phenol; hydroquinone; Baeyer Villiger arom ketone
INDEX TERM:	Oxidation (Baeyer-Villiger, of benzaldehyde and acetophenone derivs.)
INDEX TERM:	67-36-7, p-Phenoxybenzaldehyde 92-91-1, p-Phenylacetophenone 403-42-9, p-Fluoroacetophenone 459-57-4, p-Fluorobenzaldehyde 876-02-8 2615-11-4 3218-36-8, p-Phenylbenzaldehyde 5031-78-7, p-Phenoxyacetophenone 10024-90-5 18625-79-1 24826-74-2 ROLE: RCT (Reactant); RACT (Reactant or reagent) (Baeyer-Villiger reaction of)
INDEX TERM:	108-24-7, Acetic anhydride ROLE: PROC (Process) (conversion of, to peracetic acid)
INDEX TERM:	79-21-0, Peracetic acid ROLE: RCT (Reactant); RACT (Reactant or reagent) (oxidation by, of benzaldehyde or acetophenone in Baeyer-Villiger reaction)
INDEX TERM:	92-69-3P, p-Phenylphenol 95-71-6P, Methylhydroquinone 371-41-5P, p-Fluorophenol 831-82-3P, p-Phenoxyphenol 1965-09-9P 5307-05-1P ROLE: SPN (Synthetic preparation); PREP (Preparation) (preparation of, via Baeyer-Villiger reaction)
INDEX TERM:	7722-84-1, Hydrogen peroxide, reactions ROLE: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with acetic anhydride)

=> s ep 21525/pn  
L2 1 EP 21525/PN  
(EP21525/PN)

=> d l2 iall

L2 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
 ACCESSION NUMBER: 1981:406529 CAPLUS  
 DOCUMENT NUMBER: 95:6529  
 ENTRY DATE: Entered STN: 12 May 1984  
 TITLE: Carboxylated compounds  
 INVENTOR(S): Lecloux, Andre; Declerck, Claude; Legrand, Franz  
 PATENT ASSIGNEE(S): Interrox, Belg.  
 SOURCE: Eur. Pat. Appl., 23 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 INT. PATENT CLASSIF.: C07D315-00; C07C051-285  
 CLASSIFICATION: 23-17 (Aliphatic Compounds)  
 Section cross-reference(s): 24  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 21525	A1	19810107	EP 1980-200572	19800617 <-
EP 21525	B1	19840229		
R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
FR 2460285	A1	19810123	FR 1979-17307	19790629
FR 2460285	B1	19840518		
US 4353832	A	19821012	US 1980-157274	19800605
AT 6425	E	19840315	AT 1980-200572	19800617
BR 8003892	A	19810113	BR 1980-3892	19800623
ES 492861	A1	19810601	ES 1980-492861	19800627
JP 56015237	A2	19810214	JP 1980-89881	19800630
JP 01035814	B4	19890727		
PRIORITY APPLN. INFO.:			FR 1979-17307	A 19790629
			EP 1980-200572	A 19800617

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 21525	IC	C07D315-00; C07C051-285
	IPCI	C07D0315-00; C07C0051-285; C07C0051-16 [C*]
	IPCR	C07C0051-16 [I,C*]; C07C0051-285 [I,A]; C07D0315-00 [I,A]; C07D0315-00 [I,C*]
FR 2460285	IPCI	C07C0051-24; C07D0313-04; C07D0313-00 [C*]
	IPCR	C07C0051-16 [I,C*]; C07C0051-285 [I,A]; C07D0315-00 [I,A]; C07D0315-00 [I,C*]
US 4353832	IPCI	C07D0313-04; C07D0313-00 [C*]; C07C0051-16; C07C0051-235; C07C0067-39; C07C0067-00 [C*]
	IPCR	C07C0051-16 [I,C*]; C07C0051-285 [I,A]; C07D0315-00 [I,A]; C07D0315-00 [I,C*]
	NCL	549/272.000; 549/263.000; 549/273.000; 560/238.000; 562/531.000; 562/533.000
AT 6425	IPCI	C07D0315-00; C07C0051-285; C07C0051-16 [C*]; C07C0067-42; C07C0067-00 [C*]; C07C0053-126; C07C0053-00 [C*]
	IPCR	C07C0051-16 [I,C*]; C07C0051-285 [I,A]; C07C0053-00 [I,C*]; C07C0053-126 [I,A]; C07C0067-00 [I,C*]; C07C0067-42 [I,A]; C07D0315-00 [I,A]; C07D0315-00 [I,C*]
BR 8003892	IPCI	C07D0223-10; C07D0223-00 [C*]
	IPCR	C07C0051-16 [I,C*]; C07C0051-285 [I,A]; C07D0315-00 [I,A]; C07D0315-00 [I,C*]
ES 492861	IPCI	C07D0309-30; C07D0309-00 [C*]
JP 56015237	IPCI	C07C0051-285; C07C0051-16 [C*]; B01J0027-08; B01J0027-06 [C*]; C07C0067-42; C07C0067-00 [C*]; C07D0309-30; C07D0309-00 [C*]; C07D0313-04; C07D0313-00 [C*]
	IPCR	C07C0051-16 [I,C*]; C07C0051-285 [I,A]; C07D0315-00

[I,A]; C07D0315-00 [I,C\*]  
OTHER SOURCE(S) : CASREACT 95:6529; MARPAT 95:6529

ABSTRACT:

Carbonyl compds. were treated with H<sub>2</sub>O<sub>2</sub>, and HF or metal salt catalyst, in an apparatus which is described to give carboxylated compds.; the reaction mixts. were kept in the liquid state under anhydrous conditions. Thus, the reactor was charged with cyclohexanone and SbF<sub>5</sub>, heated to 363 K at 2 + 104 Pa to distil an aqueous azeotrope, and charged with H<sub>2</sub>O<sub>2</sub> to give  $\epsilon$ -caprolactone.

SUPPL. TERM: caprolactone; valerolactone; cycloalkanone oxidn catalyst  
INDEX TERM: Oxidation catalysts  
(metal halides and hydrogen fluoride, for cycloalkanones,  
lactones from)  
INDEX TERM: Cycloalkanones  
ROLE: RCT (Reactant); RACT (Reactant or reagent)  
(oxidation of, catalysts for)  
INDEX TERM: Lactones  
ROLE: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, by oxidation of cycloalkanones, catalysts  
for)  
INDEX TERM: 1309-64-4, uses and miscellaneous 1314-13-2, uses and  
miscellaneous 1314-60-9  
ROLE: CAT (Catalyst use); USES (Uses)  
(catalysts from hydrogen fluoride and, for oxidation of  
cyclohexanone)  
INDEX TERM: 109-63-7  
ROLE: CAT (Catalyst use); USES (Uses)  
(catalysts, for oxidation of cycloalkanones and heptanal)  
INDEX TERM: 373-57-9 7637-07-2, uses and miscellaneous 7646-78-8,  
uses and miscellaneous 7647-18-9 7664-39-3, uses and  
miscellaneous 7783-56-4 7783-62-2 7783-63-3  
7783-71-3 7783-82-6 10241-05-1 13637-61-1 13637-68-8  
ROLE: CAT (Catalyst use); USES (Uses)  
(catalysts, for oxidation of cyclohexanone)  
INDEX TERM: 7783-70-2  
ROLE: CAT (Catalyst use); USES (Uses)  
(catalysts, for oxidation of cyclohexanone and  
cyclohexenone)  
INDEX TERM: 84-11-7D, catalyst containing molybdenum chloride oxide and  
13814-74-9D, catalyst containing 9,10-phenanthrenequinone and  
ROLE: RCT (Reactant); RACT (Reactant or reagent)  
(for oxidation of cyclohexanone)  
INDEX TERM: 108-94-1, reactions 111-71-7 120-92-3 583-60-8  
830-13-7 930-68-7  
ROLE: RCT (Reactant); RACT (Reactant or reagent)  
(oxidation of, catalysts for)  
INDEX TERM: 111-14-8P 502-44-3P 542-28-9P 947-05-7P 2549-59-9P  
2549-61-3P 35407-45-5P 57205-07-9P  
ROLE: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

=> s jp 61-118343/pn  
L3 1 JP 61-118343/PN  
(JP61118343/PN)

=> d l3 iall

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 1986:625790 CAPLUS  
DOCUMENT NUMBER: 105:225790  
ENTRY DATE: Entered STN: 26 Dec 1986  
TITLE: Carboxylic acid derivatives  
INVENTOR(S): Soma, Yoshe; Sano, Hiroshi

PATENT ASSIGNEE(S) : Agency of Industrial Sciences and Technology, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 INT. PATENT CLASSIF.:  
     MAIN: C07C053-126  
     SECONDARY: B01J031-20; C07C051-10; C07C059-01; C07C067-36;  
                C07C069-003  
 CLASSIFICATION: 23-16 (Aliphatic Compounds)  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61118343	A2	19860605	JP 1984-239079	19841112 <-
JP 02025897	B4	19900606		

PRIORITY APPLN. INFO.: JP 1984-239079 19841112

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 61118343	ICM	C07C053-126
	ICS	B01J031-20; C07C051-10; C07C059-01; C07C067-36; C07C069-003
	IPCI	C07C0053-126 [ICM,4]; C07C0053-00 [ICM,4,C*]; B01J0031-20 [ICS,4]; B01J0031-16 [ICS,4,C*]; C07C0051-10 [ICS,4]; C07C0059-01 [ICS,4]; C07C0059-00 [ICS,4,C*]; C07C0067-36 [ICS,4]; C07C0067-00 [ICS,4,C*]; C07C0069-003 [ICS,4]; C07C0069-00 [ICS,4,C*]
	IPCR	B01J0031-16 [I,C*]; B01J0031-20 [I,A]; C07C0051-10 [I,A]; C07C0051-10 [I,C*]; C07C0053-00 [I,C*]; C07C0053-126 [I,A]; C07C0059-00 [I,C*]; C07C0059-01 [I,A]; C07C0067-00 [I,C*]; C07C0067-36 [I,A]; C07C0069-00 [I,C*]; C07C0069-003 [I,A]

ABSTRACT:

R2R3R4CCO2R1 (R1, R2, R3 = H, alkyl; R4 = HO, alkyl) are prepared by carbonylation of olefins, alcs., or aldehydes over Cu or Ag carbonyl complex catalysts over solid acid supports. Thus, CO was introduced to a mixture of 1.5 g AgF and BF3.H2O complex with stirring to give a Ag carbonyl ion solution, with which was impregnated 6 g Nafion-117 to give a catalyst, over which was passed 10 mmol 1-hexene in hexane and CO to give a mixture of 3:1 PrMe2CCO2H and Et2MeCCO2H.

SUPPL. TERM: carbonylation olefin alc aldehyde catalyst; carboxylic acid;  
 carbonyl silver copper catalyst carbonylation  
 INDEX TERM: Carbonylation  
                (of olefins, alcs., and aldehydes, carboxylic acid  
                derivs. from)  
 INDEX TERM: Carbonylation catalysts  
                (silver or copper carbonyl compds., for olefins, alcs.,  
                and aldehydes)  
 INDEX TERM: 111-66-0    123-96-6    592-41-6, reactions    30525-89-4  
                ROLE: RCT (Reactant); RACT (Reactant or reagent)  
                (carbonylation of)  
 INDEX TERM: 7440-22-4D, carbonyl compds.    7440-50-8D, carbonyl compds.  
                ROLE: CAT (Catalyst use); USES (Uses)  
                (catalysts, for carbonylation of olefins, alcs., and  
                aldehydes)  
 INDEX TERM: 1185-29-1P    1185-39-3P    14250-73-8P    19889-37-3P  
                31113-56-1P  
                ROLE: SPN (Synthetic preparation); PREP (Preparation)  
                (preparation of)

=> s jp 48-417/pn

L4 1 JP 48-417/PN  
(JP48000417/PN)

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L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 1973:83822 CAPLUS  
DOCUMENT NUMBER: 78:83822  
ENTRY DATE: Entered STN: 12 May 1984  
TITLE:  $\alpha,\beta$ -Unsaturated acids  
INVENTOR(S): Shiraishi, Tatsuo; Haga, Takeshi; Motohashi, Tadakazu;  
Shindo, Tadashi  
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd.  
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
US PATENT CLASSIF.: 16B631.1  
CLASSIFICATION: 23-12 (Aliphatic Compounds)  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 48000417	B4	19730106	JP 1971-34893	19710521 <--
JP 50029446		19750325	JP 1973-80060	19730716

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 48000417	INCL	16B631.1
JP 50029446	IPCR	B23K0011-06 [N,A]; B23K0011-06 [N,C*]

ABSTRACT:

An oxidation of  $\alpha,\beta$ -unsatd. aldehydes in an organic solvent was carried out using a metal alkylarenenesulfonate (e.g. Zn laurylbenzenesulfonate, Co p-tosylate, Co benzenesulfonate, Co naphthalenesulfonate) as a catalyst. E.g., acrolein in MeCOEt was oxidized with O<sub>2</sub> at 40° for 3 hr using Ni laurylbenzenesulfonate in C<sub>6</sub>H<sub>6</sub> to give 99% acrylic acid.

SUPPL. TERM: unsatd acid catalytic manufd; metal alkyl arenenesulfonate catalyst

INDEX TERM: Oxidation catalysts  
(metal alkylarene sulfonates, for  $\alpha,\beta$ -unsaturated aldehydes)

INDEX TERM: 31017-43-3  
ROLE: CAT (Catalyst use); USES (Uses)  
(catalysts, for oxidation of  $\alpha,\beta$ -unsaturated aldehydes)

INDEX TERM: 79-10-7P, preparation  
ROLE: PREP (Preparation)  
(from catalytic oxidation of  $\alpha,\beta$ -unsaturated aldehydes)

INDEX TERM: 107-02-8, reactions  
ROLE: RCT (Reactant); RACT (Reactant or reagent)  
(oxidation of, with nickel alkyl arene sulfonates)

=> s jp 2003-12633/pn

L5 1 JP 2003-12633/PN  
(JP2003012633/PN)

=> d 15 iall

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2003:34912 CAPLUS  
DOCUMENT NUMBER: 138:72993  
ENTRY DATE: Entered STN: 15 Jan 2003  
TITLE: Preparation of tertiary amine N-oxides  
INVENTOR(S): Tanaka, Masato; Sato, Kazuhiko; Usui, Yoko  
PATENT ASSIGNEE(S): Japan Science and Technology Corporation, Japan;  
National Institute of Advanced Industrial Science and  
Technology  
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
INT. PATENT CLASSIF.:  
MAIN: C07C291-04  
SECONDARY: B01J031-10; C07B061-00  
CLASSIFICATION: 23-4 (Aliphatic Compounds)  
Section cross-reference(s): 46  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003012633	A2	20030115	JP 2001-203338	20010704 <-
JP 3559004	B2	20040825		

PRIORITY APPLN. INFO.: JP 2001-203338 20010704

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2003012633	ICM	C07C291-04
	ICS	B01J031-10; C07B061-00
	IPCI	C07C0291-04 [ICM,7]; C07C0291-00 [ICM,7,C*]; B01J0031-10 [ICS,7]; B01J0031-06 [ICS,7,C*]; C07B0061-00 [ICS,7]
	IPCR	B01J0031-06 [I,C*]; B01J0031-10 [I,A]; C07B0061-00 [N,A]; C07B0061-00 [N,C*]; C07C0291-00 [I,C*]; C07C0291-04 [I,A]

OTHER SOURCE(S): MARPAT 138:72993

ABSTRACT:

Title compds., useful as surfactants, intermediates for oxidizing agents, etc., are prepared by oxidation of tertiary amines by H<sub>2</sub>O<sub>2</sub> using SO<sub>3</sub>H-containing polymers as catalysts. N,N-dimethyldodecylamine was oxidized by H<sub>2</sub>O<sub>2</sub> in the presence of Nafion NR 50 at 60° for 2 h to give 75.2% N,N-dimethyldodecylamine N-oxide.

SUPPL. TERM: tertiary amine oxide prepn; oxidn tertiary amine sulfo polymer catalyst; hydrogen peroxide oxidn tertiary amine catalyst

INDEX TERM: Sulfonic acids, uses  
ROLE: CAT (Catalyst use); USES (Uses)  
(polymers; preparation of tertiary amine oxides by oxidation of

INDEX TERM: amines by H<sub>2</sub>O<sub>2</sub> using SO<sub>3</sub>H-containing polymer catalysts)

INDEX TERM: Oxidation catalysts  
(preparation of tertiary amine oxides by oxidation of amines by

INDEX TERM: H<sub>2</sub>O<sub>2</sub> using SO<sub>3</sub>H-containing polymer catalysts)  
Fluoropolymers, uses  
Polymers, uses

ROLE: CAT (Catalyst use); USES (Uses)  
(sulfo-containing; preparation of tertiary amine oxides by oxidation of amines by H<sub>2</sub>O<sub>2</sub> using SO<sub>3</sub>H-containing polymer catalysts)

INDEX TERM: Amine oxides  
ROLE: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
(tertiary; preparation of tertiary amine oxides by oxidation  
of  
            amines by H<sub>2</sub>O<sub>2</sub> using SO<sub>3</sub>H-containing polymer catalysts)

INDEX TERM: Amines, reactions  
ROLE: RCT (Reactant); RACT (Reactant or reagent)  
(tertiary; preparation of tertiary amine oxides by oxidation  
of  
            amines by H<sub>2</sub>O<sub>2</sub> using SO<sub>3</sub>H-containing polymer catalysts)

INDEX TERM: 9003-53-6D, Polystyrene, sulfo derivs. 9003-70-7D,  
Divinylbenzene-styrene copolymer, sulfo derivs.  
118473-68-0, Nafion NR 50  
ROLE: CAT (Catalyst use); USES (Uses)  
(preparation of tertiary amine oxides by oxidation of amines  
by  
            H<sub>2</sub>O<sub>2</sub> using SO<sub>3</sub>H-containing polymer catalysts)

INDEX TERM: 1643-20-5P, N,N-Dimethyldodecylamine N-oxide 2530-46-3P,  
N-Dodecylmorpholine N-oxide  
ROLE: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
(preparation of tertiary amine oxides by oxidation of amines  
by  
            H<sub>2</sub>O<sub>2</sub> using SO<sub>3</sub>H-containing polymer catalysts)

INDEX TERM: 112-18-5, N,N-Dimethyldodecylamine 1541-81-7,  
N-Dodecylmorpholine 7722-84-1, Hydrogen peroxide,  
reactions  
ROLE: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of tertiary amine oxides by oxidation of amines  
by  
            H<sub>2</sub>O<sub>2</sub> using SO<sub>3</sub>H-containing polymer catalysts)

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NEWS 13 JUL 14 FSTA enhanced with Japanese patents  
NEWS 14 JUL 19 Coverage of Research Disclosure reinstated in DWPI  
NEWS 15 AUG 09 INSPEC enhanced with 1898-1968 archive  
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NEWS 18 SEP 11 CA/CAplus enhanced with more pre-1907 records

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FILE LAST UPDATED: 15 Sep 2006 (20060915/ED)

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=> s (produc? or mak? or prepar? or manufactu? or synthesi?) (s) carboxylic acid  
(p) aldehyde and hydrogen peroxide  
4334207 PRODUC?  
960975 PRODN  
530 PRODNS  
961155 PRODN  
(PRODN OR PRODNS)  
4798273 PRODUC?  
(PRODUC? OR PRODN)  
694641 MAK?  
1683402 PREPAR?  
125397 PREP  
2201 PREPS  
127392 PREP  
(PREP OR PREPS)  
2032585 PREPD  
17 PREPDS  
2032597 PREPD  
(PREPD OR PREPDS)  
128212 PREPG  
12 PREPGS  
128223 PREPG  
(PREPG OR PREPGS)  
2741868 PREPN  
205696 PREPNS  
2897028 PREPN  
(PREPN OR PREPNS)  
4809079 PREPAR?  
(PREPAR? OR PREP OR PREPD OR PREPG OR PREPN)  
606035 MANUFACTU?  
1048343 MANUF  
1473 MANUFS  
1049465 MANUF  
(MANUF OR MANUFS)  
234596 MANUFD

182433 MANUFG  
1 MANUFGS  
182433 MANUFG  
(MANUFG OR MANUFGS)  
1441248 MANUFACTU?  
(MANUFACTU? OR MANUF OR MANUFD OR MANUEG)  
1528767 SYNTHESI?  
241610 CARBOXYLIC  
47 CARBOXYLICS  
241629 CARBOXYLIC  
(CARBOXYLIC OR CARBOXYLICS)  
4212489 ACID  
1540685 ACIDS  
4707010 ACID  
(ACID OR ACIDS)  
222553 CARBOXYLIC ACID  
(CARBOXYLIC(W)ACID)  
106747 ALDEHYDE  
103439 ALDEHYDES  
165451 ALDEHYDE  
(ALDEHYDE OR ALDEHYDES)  
2864 (PRODUC? OR MAK? OR PREPAR? OR MANUFACTU? OR SYNTHESI?) (S)  
CARBOXYLIC ACID (P) ALDEHYDE  
944099 HYDROGEN  
5829 HYDROGENS  
947355 HYDROGEN  
(HYDROGEN OR HYDROGENS)  
206092 PEROXIDE  
46401 PEROXIDES  
224272 PEROXIDE  
(PEROXIDE OR PEROXIDES)  
111221 HYDROGEN PEROXIDE  
(HYDROGEN(W) PEROXIDE)  
L1 68 (PRODUC? OR MAK? OR PREPAR? OR MANUFACTU? OR SYNTHESI?) (S)  
CARBOXYLIC ACID (P) ALDEHYDE AND HYDROGEN PEROXIDE  
  
=> s l1 and catalyst  
734947 CATALYST  
737630 CATALYSTS  
943403 CATALYST  
(CATALYST OR CATALYSTS)  
L2 39 L1 AND CATALYST  
  
=> s l2 and nafion  
9681 NAFION  
31 NAFIONS  
9685 NAFION  
(NAFION OR NAFIONS)  
L3 1 L2 AND NAFION  
  
=> s l3 ibib ab  
MISSING OPERATOR L3 IBIB  
The search profile that was entered contains terms or  
nested terms that are not separated by a logical operator.  
  
=> d l3 ibib ab  
  
L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2004:534161 CAPLUS  
DOCUMENT NUMBER: 141:71284  
TITLE: Process for preparation of carboxylic acids by  
oxidation

INVENTOR(S): Sato, Kazuhiko; Usui, Youko  
 PATENT ASSIGNEE(S): National Institute of Advanced Industrial Science and  
 Technology, Japan  
 SOURCE: PCT Int. Appl., 15 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004054956	A1	20040701	WO 2003-JP14360	20031112
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004196692	A2	20040715	JP 2002-365964	20021218
AU 2003280737	A1	20040709	AU 2003-280737	20031112
CN 1729154	A	20060201	CN 2003-80107031	20031112
US 2006167311	A1	20060727	US 2005-539209	20050617
PRIORITY APPLN. INFO.:			JP 2002-365964	A 20021218
			WO 2003-JP14360	W 20031112

OTHER SOURCE(S): CASREACT 141:71284; MARPAT 141:71284

AB This invention pertains to a method for producing carboxylic acids, which comprises reacting an aldehyde-containing oily solution with an aqueous hydrogen peroxide solution in the presence of a catalyst comprising a polymer compound having a sulfonic acid group in a side chain in a heterogeneous system. For example, octanal was treated with 30% aqueous H<sub>2</sub>O<sub>2</sub> in the presence of Nafion NR50 to give octanoic acid (93%). The method allows the prodn. of a carboxylic acid under mild conditions having little adverse effect including toxicity on the environment or a human body, with simple and easy operations, without the need of the operation for removing a solvent, with good efficiency.

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L1 68 S (PRODUC? OR MAK? OR PREPAR? OR MANUFACTU? OR SYNTHESI?) (S) C  
 L2 39 S L1 AND CATALYST  
 L3 1 S L2 AND NAFION

=> s 12 and polymer  
 1085560 POLYMER  
 883781 POLYMERS  
 1463857 POLYMER  
 (POLYMER OR POLYMERS)  
 L4 2 L2 AND POLYMER

=> s 14 not 13

L5

1 L4 NOT L3

=> d 15 ibib ab

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2002:945623 CAPLUS  
DOCUMENT NUMBER: 138:286992  
TITLE: Polystyrene-bound phenylseleninic acid: catalytic oxidation of aldehydes to carboxylic acids with hydrogen peroxide  
AUTHOR(S): Qian, Hao; Shao, Li-Xiong; Huang, Xian  
CORPORATE SOURCE: Department of Chemistry, Zhejiang University, Hangzhou, 310028, Peop. Rep. China  
SOURCE: Journal of Chemical Research, Synopses (2002), (10), 514-515  
CODEN: JRPSDC; ISSN: 0308-2342  
PUBLISHER: Science Reviews  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 138:286992  
AB Polystyrene-bound phenylseleninic acid was prep'd. conveniently and aldehydes were catalytically oxidized to carboxylic acids with hydrogen peroxide using this polymer as catalyst.  
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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=> e phenylseleninic acid/cn

E1	1	PHENYLSELENENYL TRIFLATE/CN
E2	1	PHENYLSELENIC ACID, POTASSIUM SALT/CN
E3	1 -->	PHENYLSELENINIC ACID/CN
E4	1	PHENYLSELENINIC ANHYDRIDE/CN
E5	1	PHENYLSELENINYL/CN
E6	1	PHENYLSELENIUM AZIDE/CN
E7	1	PHENYLSELENIUM BROMIDE/CN
E8	1	PHENYLSELENIUM CHLORIDE/CN
E9	1	PHENYLSELENIUM MONOCHLORIDE/CN
E10	1	PHENYLSELENIUM TRIBROMIDE/CN
E11	1	PHENYLSELENIUM TRICHLORIDE/CN
E12	1	PHENYLSELENIUM TRIFLUORIDE/CN

=> d e3

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=> s e3

L6 1 "PHENYLSELENINIC ACID"/CN

=> d 16

L6 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN

RN 6996-92-5 REGISTRY

ED Entered STN: 16 Nov 1984

CN Benzeneseleninic acid (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN Benzeneselenic acid

CN Phenylseleninic acid

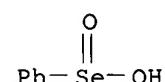
MF C6 H6 O2 Se

CI COM

LC STN Files: BEILSTEIN\*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, CSNB, GMELIN\*, MEDLINE, TOXCENTER  
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Other Sources: EINECS\*\*

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15 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

146 REFERENCES IN FILE CAPLUS (1907 TO DATE)

5 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> e styrene/cn

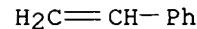
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E2	1	STYRENATED PHENOL/CN
E3	1 -->	STYRENE/CN
E4	1	STYRENE A-BORONIC ACID/CN

E5 1 STYRENE A-CHLOROHYDRIN/CN  
E6 1 STYRENE B-BROMOHYDRIN/CN  
E7 1 STYRENE B-CHLOROHYDRIN/CN  
E8 1 STYRENE 1',2'-OXIDE/CN  
E9 1 STYRENE 3,4-OXIDE/CN  
E10 1 STYRENE 4-VINYLBENZOIC ACID COPOLYMER SODIUM SALT/CN  
E11 1 STYRENE 7,8-OXIDE/CN  
E12 1 STYRENE ACRYLIC ACID/CN

=> s e3  
L7 1 STYRENE/CN

=> d 17

L7 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 100-42-5 REGISTRY  
ED Entered STN: 16 Nov 1984  
CN Benzene, ethenyl- (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Styrene (8CI)  
OTHER NAMES:  
CN Cinnamene  
CN Ethenylbenzene  
CN NSC 62785  
CN Phenethylene  
CN Phenylethene  
CN Phenylethylene  
CN Styrol  
CN Styrole  
CN Styrolene  
CN Styropol SO  
CN Vinylbenzene  
CN Vinylbenzol  
FS 3D CONCORD  
DR 79637-11-9  
MF C8 H8  
CI COM  
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS,  
BIOTECHNO, CA, CABAB, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS,  
CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*,  
DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*,  
HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT,  
PIRA, PROMT, PS, RTECS\*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT,  
USPAT2, USPATFULL, VTB  
(\*File contains numerically searchable property data)  
Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)



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63651 REFERENCES IN FILE CA (1907 TO DATE)  
16461 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
63758 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
12 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> FIL CASREACT

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CA SUBSCRIBER PRICE	0.00	-1.50

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*****
*          *
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*          *
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This file contains CAS Registry Numbers for easy and accurate substance identification.

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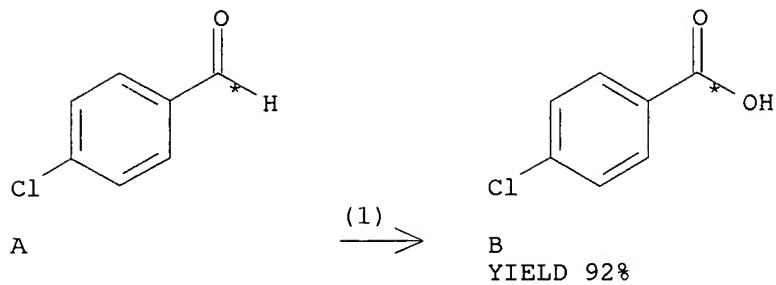
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=> D ACC 138:286992 ALL

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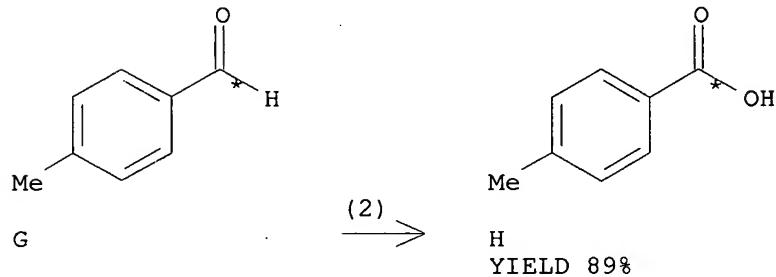
ANSWER 1 CASREACT COPYRIGHT 2006 ACS on STN  
 AN 138:286992 CASREACT  
 TI Polystyrene-bound phenylseleninic acid: catalytic oxidation of aldehydes to carboxylic acids with hydrogen peroxide  
 AU Qian, Hao; Shao, Li-Xiong; Huang, Xian  
 CS Department of Chemistry, Zhejiang University, Hangzhua, 310028, Peop. Rep. China  
 SO Journal of Chemical Research, Synopses (2002), (10), 514-515  
 CODEN: JRPSDC; ISSN: 0308-2342  
 PB Science Reviews  
 DT Journal  
 LA English  
 CC 21-2 (General Organic Chemistry)  
 AB Polystyrene-bound phenylseleninic acid was prepared conveniently and aldehydes were catalytically oxidized to carboxylic acids with hydrogen peroxide using this polymer as catalyst.

ST carboxylic acid prep; oxidn aldehyde polystyrene bound phenylseleninic acid catalyst  
 IT Oxidation  
 Oxidation catalysts  
     (preparation of carboxylic acids by hydrogen peroxide oxidation of aldehydes catalyzed by polystyrene-bound phenylseleninic acid)  
 IT Aldehydes, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
     (preparation of carboxylic acids by hydrogen peroxide oxidation of aldehydes catalyzed by polystyrene-bound phenylseleninic acid)  
 IT Carboxylic acids, preparation  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
     (preparation of carboxylic acids by hydrogen peroxide oxidation of aldehydes catalyzed by polystyrene-bound phenylseleninic acid)  
 IT 6996-92-5DP, Phenylseleninic acid, polystyrene-bound  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
 USES (Uses)  
     (preparation of carboxylic acids by hydrogen peroxide oxidation of aldehydes catalyzed by polystyrene-bound phenylseleninic acid)  
 IT 50-84-0, 2,4-Dichlorobenzoic acid 62-23-7, p-Nitrobenzoic acid  
 65-85-0, Benzoic acid, reactions 74-11-3, p-Chlorobenzoic acid  
 88-14-2, 2-Furoic acid 98-01-1, 2-Furaldehyde, reactions 99-94-5,  
 p-Methylbenzoic acid 100-09-4, p-Methoxybenzoic acid 100-10-7,  
 p-Dimethylaminobenzaldehyde 100-52-7, Benzaldehyde, reactions  
 103-82-2, Phenylacetic acid, reactions 104-87-0, p-Methoxybenzaldehyde  
 104-88-1, p-Chlorobenzaldehyde, reactions 107-92-6, Butanoic acid,  
 reactions 109-52-4, Pentanoic acid, reactions 110-62-3, Pentanal  
 122-78-1, Phenylacetaldehyde 123-11-5, p-Methoxybenzaldehyde, reactions  
 123-72-8, Butanal 456-22-4, p-Fluorobenzoic acid 459-57-4,  
 p-Fluorobenzaldehyde 503-74-2, Isopentanoic acid 555-16-8,  
 p-Nitrobenzaldehyde, reactions 590-86-3, Isopentanal 619-84-1,  
 p-Dimethylaminobenzoic acid 628-39-7, Diethyl diselenide 874-42-0,  
 2,4-Dichlorobenzaldehyde 7722-84-1, Hydrogen peroxide, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
     (preparation of carboxylic acids by hydrogen peroxide oxidation of aldehydes catalyzed by polystyrene-bound phenylseleninic acid)  
 IT 17774-38-8DP, polystyrene-bound  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
     (Reactant or reagent)  
     (preparation of carboxylic acids by hydrogen peroxide oxidation of aldehydes catalyzed by polystyrene-bound phenylseleninic acid)  
 RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Berkessel, A; Tetrahedron Lett 2001, V42, P2293 CAPLUS  
 (2) Choi, J; Tetrahedron Lett 1978, V29, P1967  
 (3) Farrall, M; J Org Chem 1976, V41, P3877 CAPLUS  
 (4) Grieco, P; J Chem Soc, Chem Commun 1977, P870 CAPLUS  
 (5) Grieco, P; J Org Chem 1977, V42, P2034 CAPLUS  
 (6) Larock, R; Comprehensive Organic Transformations -- A Guide to Functional Group Preparations 1989, P838  
 (7) Nicolaou, K; J Chem Soc, Chem Commun 1998, P1947 CAPLUS  
 (8) Reich, H; Synthesis 1978, P299 CAPLUS  
 (9) Taylor, R; J Org Chem 1983, V48, P5160 CAPLUS  
 (10) Zundel, G; Angew Chem, Int Ed Engl 1969, V8, P499 CAPLUS



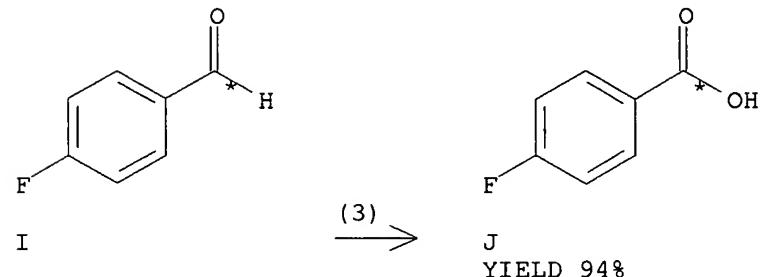
RX(1)      RCT A 104-88-1  
 RGT C 7722-84-1 H<sub>2</sub>O<sub>2</sub>  
 PRO B 74-11-3  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 8 hours, 25 deg C  
 NTE solid-supported catalyst

RX(2) OF 16      G ==> H



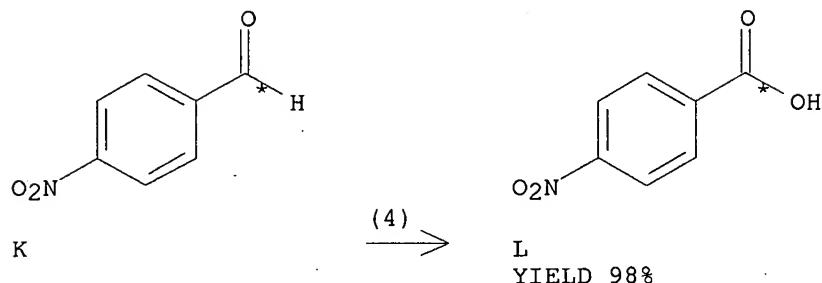
RX(2)      RCT G 104-87-0  
 RGT C 7722-84-1 H<sub>2</sub>O<sub>2</sub>  
 PRO H 99-94-5  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 24 hours, 25 deg C  
 NTE solid-supported catalyst

RX(3) OF 16      I ==> J



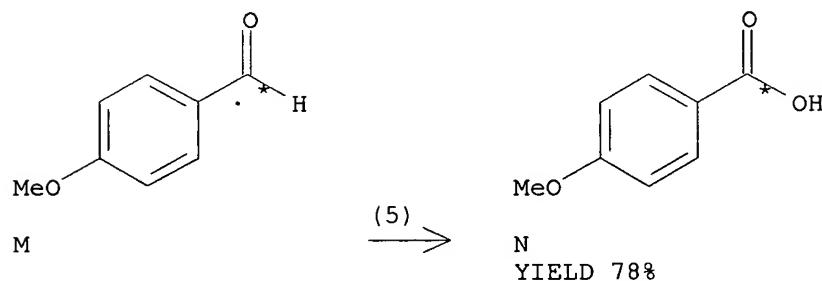
RX (3)      RCT I 459-57-4  
 RGT C 7722-84-1 H<sub>2</sub>O<sub>2</sub>  
 PRO J 456-22-4  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 20 hours, 25 deg C  
 NTE solid-supported catalyst

RX (4) OF 16      K ==> L



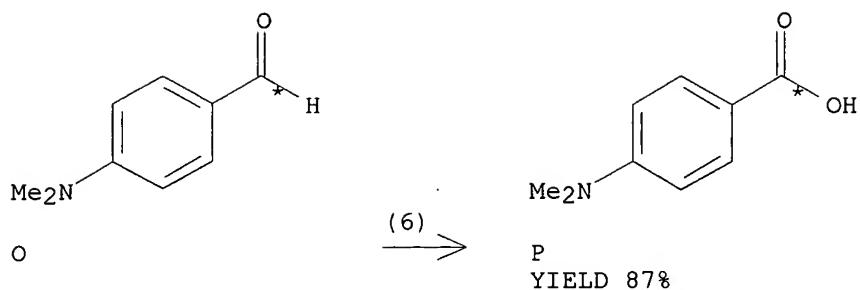
RX (4)      RCT K 555-16-8  
 RGT C 7722-84-1 H<sub>2</sub>O<sub>2</sub>  
 PRO L 62-23-7  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 8 hours, 25 deg C  
 NTE solid-supported catalyst

RX (5) OF 16      M ==> N



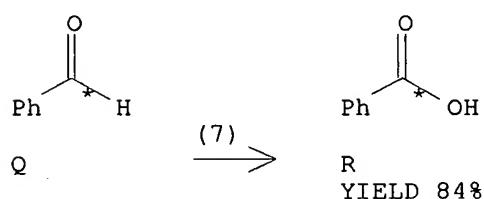
RX (5)      RCT M 123-11-5  
 RGT C 7722-84-1 H<sub>2</sub>O<sub>2</sub>  
 PRO N 100-09-4  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 40 hours, 25 deg C  
 NTE solid-supported catalyst

RX (6) OF 16      O ==> P



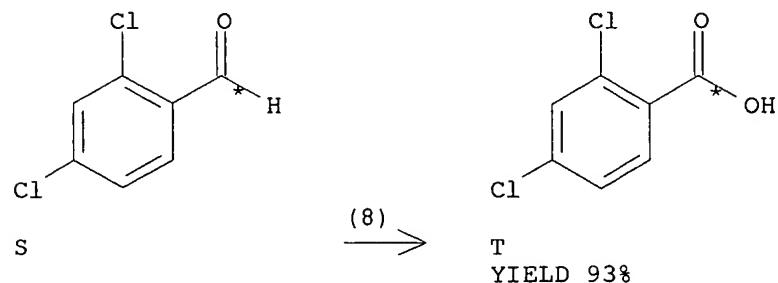
RX(6)      RCT O 100-10-7  
 RGT C 7722-84-1 H2O2  
 PRO P 619-84-1  
 CAT 6996-92-5D PhSeO2H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 24 hours, 25 deg C  
 NTE solid-supported catalyst

RX(7) OF 16      Q ==> R



RX(7)      RCT Q 100-52-7  
 RGT C 7722-84-1 H2O2  
 PRO R 65-85-0  
 CAT 6996-92-5D PhSeO2H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 20 hours, 25 deg C  
 NTE solid-supported catalyst

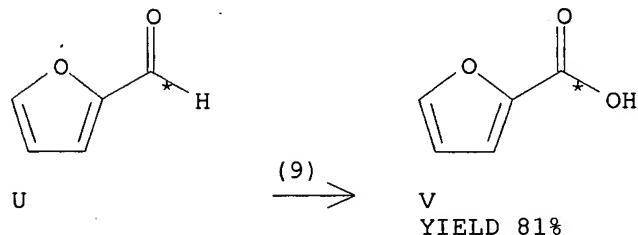
RX(8) OF 16      S ==> T



RX(8)      RCT S 874-42-0  
 RGT C 7722-84-1 H2O2

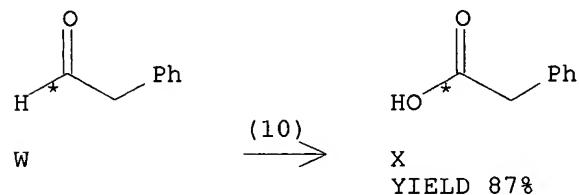
PRO T 50-84-0  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 12 hours, 25 deg C  
 NTE solid-supported catalyst

RX(9) OF 16 U ==> V



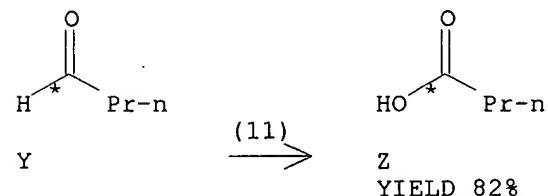
RX(9) RCT U 98-01-1  
 RGT C 7722-84-1 H<sub>2</sub>O<sub>2</sub>  
 PRO V 88-14-2  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 24 hours, 25 deg C  
 NTE solid-supported catalyst

RX(10) OF 16 W ==> X



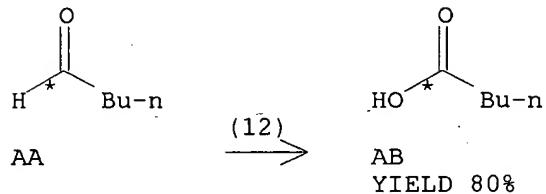
RX(10) RCT W 122-78-1  
 RGT C 7722-84-1 H<sub>2</sub>O<sub>2</sub>  
 PRO X 103-82-2  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 6 hours, 25 deg C  
 NTE solid-supported catalyst

RX(11) OF 16 Y ==> Z



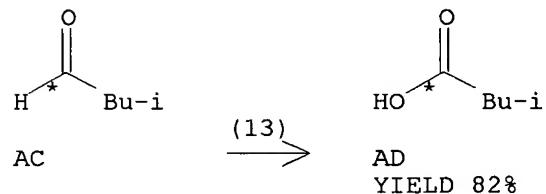
RX(11) RCT Y 123-72-8  
 RGT C 7722-84-1 H<sub>2</sub>O<sub>2</sub>  
 PRO Z 107-92-6  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 6 hours, 25 deg C  
 NTE solid-supported catalyst

RX(12) OF 16 AA ==> AB



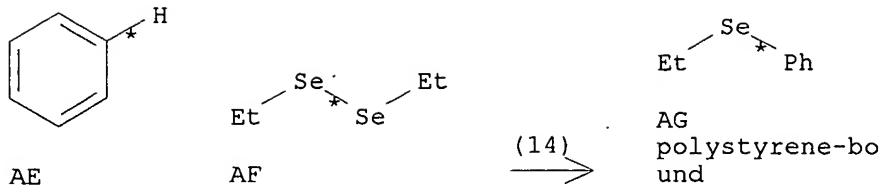
RX(12) RCT AA 110-62-3  
 RGT C 7722-84-1 H<sub>2</sub>O<sub>2</sub>  
 PRO AB 109-52-4  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 6 hours, 25 deg C  
 NTE solid-supported catalyst

RX(13) OF 16 AC ==> AD



RX(13) RCT AC 590-86-3  
 RGT C 7722-84-1 H<sub>2</sub>O<sub>2</sub>  
 PRO AD 503-74-2  
 CAT 6996-92-5D PhSeO<sub>2</sub>H  
 SOL 109-99-9 THF, 7732-18-5 Water  
 CON 6 hours, 25 deg C  
 NTE solid-supported catalyst

RX(14) OF 16 AE + AF ==> AG...



RX(14) RCT AE 71-43-2

STAGE(1)

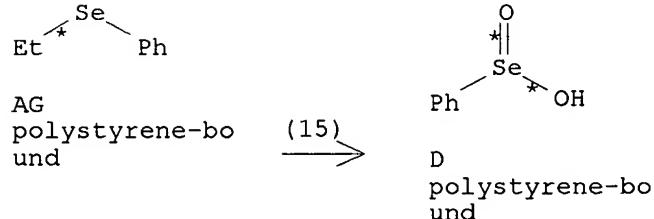
RGT AH 110-18-9 TMEDA, AI 109-72-8 BuLi  
 SOL 110-82-7 Cyclohexane  
 CON SUBSTAGE(1) room temperature  
 SUBSTAGE(2) 6 hours, 65 deg C

STAGE(2)

RCT AF 628-39-7  
 SOL 109-99-9 THF  
 CON SUBSTAGE(1) 0 deg C  
 SUBSTAGE(2) 30 minutes, 0 deg C  
 SUBSTAGE(3) 0 deg C -> 25 deg C  
 SUBSTAGE(4) 30 minutes, 25 deg C

PRO AG 17774-38-8D  
 NTE attached to resin

RX(15) OF 16 ...AG ==> D



RX(15) RCT AG 17774-38-8D  
 RGT C 7722-84-1 H2O2  
 PRO D 6996-92-5D  
 SOL 7732-18-5 Water, 109-99-9 THF  
 CON SUBSTAGE(1) room temperature  
 SUBSTAGE(2) 30 minutes, room temperature  
 SUBSTAGE(3) 2 hours, 60 deg C  
 NTE solid-supported reaction

=> SET NOTICE LOGIN DISPLAY

NOTICE SET TO OFF FOR DISPLAY COMMAND  
 SET COMMAND COMPLETED

=> file caplus  
 COST IN U.S. DOLLARS  
 FULL ESTIMATED COST

SINCE FILE ENTRY	TOTAL SESSION
10.34	62.40

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.71	-2.21

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 FILE LAST UPDATED: 15 Sep 2006 (20060915/ED)

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=> d his

(FILE 'HOME' ENTERED AT 14:47:17 ON 17 SEP 2006)

FILE 'CAPLUS' ENTERED AT 14:47:30 ON 17 SEP 2006  
 L1 68 S (PRODUC? OR MAK? OR PREPAR? OR MANUFACTU? OR SYNTHESI?) (S) C  
 L2 39 S L1 AND CATALYST  
 L3 1 S L2 AND NAFION  
 L4 2 S L2 AND POLYMER  
 L5 1 S L4 NOT L3

FILE 'REGISTRY' ENTERED AT 14:54:18 ON 17 SEP 2006  
 E PHENYLSELENINIC ACID/CN  
 L6 1 S E3  
 E STYRENE/CN  
 L7 1 S E3

FILE 'CASREACT' ENTERED AT 14:57:40 ON 17 SEP 2006  
 SET NOTICE DISPLAY 1  
 SET NOTICE LOGIN DISPLAY

FILE 'CAPLUS' ENTERED AT 14:59:38 ON 17 SEP 2006

=> s 12 and sulfonic acid  
 77329 SULFONIC  
 20 SULFONICS  
 77343 SULFONIC  
 (SULFONIC OR SULFONICS)  
 4212489 ACID  
 1540685 ACIDS  
 4707010 ACID  
 (ACID OR ACIDS)  
 72593 SULFONIC ACID

(SULFONIC(W)ACID)  
L8 1 L2 AND SULFONIC ACID

=> s 18 not 13  
L9 0 L8 NOT L3

=> s 12 and sulfonic  
77329 SULFONIC  
20 SULFONICS  
77343 SULFONIC  
(SULFONIC OR SULFONICS)  
L10 1 L2 AND SULFONIC

=> file reg  
COST IN U.S. DOLLARS SINCE FILE TOTAL  
ENTRY SESSION  
FULL ESTIMATED COST 8.15 70.55  
  
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL  
ENTRY SESSION  
CA SUBSCRIBER PRICE 0.00 -2.21

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STRUCTURE FILE UPDATES: 15 SEP 2006 HIGHEST RN 907161-02-8  
DICTIONARY FILE UPDATES: 15 SEP 2006 HIGHEST RN 907161-02-8

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Effective September 24, 2006, Concord 3D coordinates will no longer  
be available. Please contact CAS Customer Care  
(<http://www.cas.org/supp.html>) if you have a need for 3D coordinates.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> e benzoic acid/cn  
E1 1 BENZOIC 4-METHYLBENZOIC ANHYDRIDE/CN  
E2 1 BENZOIC 4-NITROBENZOIC ANHYDRIDE/CN  
E3 1 --> BENZOIC ACID/CN  
E4 1 BENZOIC ACID N,N,N',N'-TETRAKIS(2-HYDROXYPROPYL)ETHYLENEDIA  
MINE SALT/CN  
E5 1 BENZOIC ACID (((((S)-3-(4-(1,1-DIOXOHEXAHYDROTHIOPYRAN-4-YL)  
-3-FLUOROPHENYL)-2-OXOOAZOLIDIN-5-YL)METHYL)CARBAMOYL)OXY)M  
ETHYL ESTER/CN  
E6 1 BENZOIC ACID (((ETHYLSULFANYL)CARBONYL)OXY)METHYL ESTER/CN  
E7 1 BENZOIC ACID ((2R)-1-(4-(3-(2-METHOXYBENZYLOXY)PROPOXY)PHENY

E8	1	L)-6-OXOPIPERAZIN-2-YL)METHYL ESTER/CN BENZOIC ACID ((4-FLUOROPHENYL)-(TETRAHYDROFURAN-2-YL)METHYL) ESTER/CN
E9	1	BENZOIC ACID ((ACETYL((R)-3-(4-(1,1-DIOXOHEXAHYDROTHIOPYRAN -4-YL)-3-FLUOROPHENYL)-2-OXOOXAZOLIDIN-5-YL)METHYL) CARBAMOYL )OXY)METHYL ESTER/CN
E10	1	BENZOIC ACID (1-FERROCENYLETHYLIDENE) HYDRAZIDE/CN
E11	1	BENZOIC ACID (2,5-DICHLOROPHENYL) HYDRAZIDE/CN
E12	1	BENZOIC ACID (2,6-DICHLOROBENZYLIDENE) HYDRAZIDE/CN

=> s e3

L11 1 "BENZOIC ACID"/CN

=> d 111

L11 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN

RN 65-85-0 REGISTRY

ED Entered STN: 16 Nov 1984

CN Benzoic acid (7CI, 8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN Benzenecarboxylic acid

CN Benzeneformic acid

CN Benzenemethanoic acid

CN Carboxybenzene

CN Dracylic acid

CN E 210

CN HA 1

CN HA 1 (acid)

CN MENNO-Florades

CN NSC 149

CN Phenylcarboxylic acid

CN Phenylformic acid

CN Purox B

CN Retarder BA

CN Retardex

CN Salvo liquid

CN Solvo powder

CN Tenn-Plas

FS 3D CONCORD

DR 8013-63-6, 331473-08-6

MF C7 H6 O2

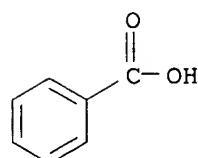
CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS,  
BIOTECHNO, CA, CABAB, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS,  
CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*,  
DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*,  
HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT,  
PIRA, PROMT, PS, RTECS\*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT,  
USAN, USPAT2, USPATFULL, VETU, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

33431 REFERENCES IN FILE CA (1907 TO DATE)  
3273 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
33527 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
8 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> e benzaldehyde/cn

E1 1 BENZALDAZINE-1,3-BIS(3-ISOCYANATO-4-METHYLPHENYLENE) PARABANI  
C ACID COPOLYMER/CN  
E2 1 BENZALDAZINECOBALT IODIDE/CN  
E3 1 --> BENZALDEHYDE/CN  
E4 1 BENZALDEHYDE (2-CARBOXY-5-SULFOPHENYL) HYDRAZONE/CN  
E5 1 BENZALDEHYDE (2-FLUOROPHENYL) HYDRAZONE/CN  
E6 1 BENZALDEHYDE (2-METHYLALLYL) HYDRAZONE/CN  
E7 1 BENZALDEHYDE (4-CHLOROBENZOYL) HYDRAZONE/CN  
E8 1 BENZALDEHYDE (4-METHYLBENZOYL) HYDRAZONE/CN  
E9 1 BENZALDEHYDE (4-PYRIDYLCARBONYL) HYDRAZONE/CN  
E10 1 BENZALDEHYDE (5,6-DIPHENYL-1,2,4-TRIAZIN-3-YL) HYDRAZONE/CN  
E11 1 BENZALDEHYDE (5-PHENYL-1,2,4-TRIAZOL-3-YL) HYDRAZONE/CN  
E12 1 BENZALDEHYDE (BENZYLOXYCARBONYL) HYDRAZONE/CN

=> s e3

L12 1 BENZALDEHYDE/CN

=> d 112

L12 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN

RN 100-52-7 REGISTRY

ED Entered STN: 16 Nov 1984

CN Benzaldehyde (7CI, 8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN Artificial Almond Oil

CN Benzaldehyde FFC

CN Benzenecarbonal

CN Benzenecarboxaldehyde

CN Benzoic acid aldehyde

CN Benzoic aldehyde

CN NSC 7917

CN Phenylformaldehyde

CN Phenylmethanal

FS 3D CONCORD

MF C7 H6 O

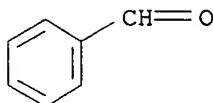
CI COM

LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT, PIRA, PROMT, PS, RTECS\*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

55763 REFERENCES IN FILE CA (1907 TO DATE)  
916 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
55989 REFERENCES IN FILE CPLUS (1907 TO DATE)  
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> e hydrogen peroxide/cn

E1 1 HYDROGEN PENTYL MALEATE-MALEIC ANHYDRIDE-STYRENE POLYMER/CN  
E2 1 HYDROGEN PEROXIDASE 9 (HUMAN CLONE PBS-0082H01)/CN  
E3 1 --> HYDROGEN PEROXIDE/CN  
E4 1 HYDROGEN PEROXIDE ((H<sub>2</sub>O<sub>2</sub>)), COMPD. WITH 1,4-DIAZABICYCLO(2.2.2)OCTANE 1,4-DIOXIDE (3:1), DIHYDRATE/CN  
E5 1 HYDROGEN PEROXIDE (D218O2)/CN  
E6 1 HYDROGEN PEROXIDE (D2O18O)/CN  
E7 1 HYDROGEN PEROXIDE (D2O2)/CN  
E8 1 HYDROGEN PEROXIDE (D2O2), COMPD. WITH DILITHIUM ETHANEDIOATE (1:1)/CN  
E9 1 HYDROGEN PEROXIDE (D2O2), COMPD. WITH DIPOTASSIUM ETHANEDIOATE (1:1)/CN  
E10 1 HYDROGEN PEROXIDE (D2O2), COMPD. WITH DIRUBIDIUM ETHANEDIOATE (1:1)/CN  
E11 1 HYDROGEN PEROXIDE (D2O2), COMPD. WITH DISODIUM CARBONATE (3:2)/CN  
E12 1 HYDROGEN PEROXIDE (D2O2), COMPD. WITH DISODIUM ETHANEDIOATE (1:1)/CN

=> s e3

L13 1 "HYDROGEN PEROXIDE"/CN

=> d l13

L13 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 7722-84-1 .REGISTRY  
ED Entered STN: 16 Nov 1984  
CN Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Hydrogen peroxide (8CI)  
OTHER NAMES:  
CN Adeka Super EL  
CN Albone  
CN Albone 35  
CN Albone DS  
CN Anti-Keim 50  
CN Asepticper  
CN Baquashock  
CN CIX  
CN Clariigel Gold  
CN Crestal Whitestrips  
CN Crystacide  
CN Dentasept  
CN Deslime LP  
CN Hioxyl  
CN Hipox

CN Hybrite  
 CN Hydrogen dioxide  
 CN Inhibine  
 CN Lase Peroxide  
 CN Lensan A  
 CN Magic Bleaching  
 CN Metrokur  
 CN Mirasept  
 CN Nite White Excel 2  
 CN NSC 19892  
 CN Odosat D  
 CN Opalescence Xtra  
 CN Oxigenal  
 CN Oxydol  
 CN Oxyfull  
 CN Oxysept  
 CN Oxysept I  
 CN Pegasyl  
 CN Perhydrol  
 CN Perone  
 CN Peroxaan  
 CN Peroxclean  
 CN Quasar Brite  
 CN Select Bleach  
 CN Superoxol  
 CN T-Stuff  
 CN Whiteness HP  
 CN Whitespeed  
 CN Xtra White  
 FS 3D CONCORD  
 DR 8007-30-5, 66554-50-5, 37355-84-3, 218625-72-0  
 MF H2 O2  
 CI COM  
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOSIS, BIOTECHNO, CA,  
     CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST,  
     CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DRUGU, EMBASE, ENCOMPLIT,  
     ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT,  
     IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, PIRA, PROMT, PS, RTECS\*,  
     TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB  
     (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
     (\*\*Enter CHEMLIST File for up-to-date regulatory information)

HO-- OH

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

96271 REFERENCES IN FILE CA (1907 TO DATE)  
 815 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 96530 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> file caplus	SINCE FILE	TOTAL
COST IN U.S. DOLLARS	ENTRY	SESSION
FULL ESTIMATED COST	21.30	91.85
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL

FILE 'CASREACT' ENTERED AT 14:57:40 ON 17 SEP 2006  
SET NOTICE DISPLAY 1  
SET NOTICE LOGIN DISPLAY

FILE 'CAPLUS' ENTERED AT 14:59:38 ON 17 SEP 2006  
L8 1 S L2 AND SULFONIC ACID  
L9 0 S L8 NOT L3  
L10 1 S L2 AND SULFONIC

FILE 'REGISTRY' ENTERED AT 15:02:51 ON 17 SEP 2006  
E BENZOIC ACID/CN  
L11 1 S E3  
E BENZALDEHYDE/CN  
L12 1 S E3  
E HYDROGEN PEROXIDE/CN  
L13 1 S E3

FILE 'CAPLUS' ENTERED AT 15:04:35 ON 17 SEP 2006  
L14 3274 S L11/PREP  
L15 478 S L12 AND L13  
L16 70 S L14 AND L15

=> s l16 and nafion  
9681 NAFION  
31 NAFIONS  
9685 NAFION  
(NAFIION OR NAFIONS)  
L17 1 L16 AND NAFION

=> s l17 not l3  
L18 0 L17 NOT L3

=> s l16 and sulfonic  
77329 SULFONIC  
20 SULFONICS  
77343 SULFONIC  
(SULFONIC OR SULFONICS)  
L19 1 L16 AND SULFONIC

=> s l19 not l17  
L20 0 L19 NOT L17

=> s l16 and polymer  
1085560 POLYMER  
883781 POLYMERS  
1463857 POLYMER  
(POLYMER OR POLYMERS)  
L21 2 L16 AND POLYMER

=> s l21 not l3  
L22 1 L21 NOT L3

=> d l22 ibib ab

L22 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2002:539736 CAPLUS  
DOCUMENT NUMBER: 137:109980  
TITLE: Polysiloxanes containing phosphonic groups used as  
effective catalysts and ion exchange resins  
INVENTOR(S): Sullivan, Alice Caroline; Wilson, John Robert Howe  
PATENT ASSIGNEE(S): Queen Mary & Westfield College, UK  
SOURCE: PCT Int. Appl., 59 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002055587	A1	20020718	WO 2002-GB69	20020109
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1360222	A1	20031112	EP 2002-729441	20020109
EP 1360222	B1	20060906		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2004077889	A1	20040422	US 2003-250732	20031121
US 7064226	B2	20060620		
PRIORITY APPLN. INFO.:			GB 2001-470 WO 2002-GB69	A 20010109 W 20020109

OTHER SOURCE(S): MARPAT 137:109980

AB Silsesquioxanes (I) are produced, where R and R1 are each independently hydrogen, a linear or branched C1-40 alkyl, C2-40 alkenyl or C2-40 alkynyl group, an aryl or C1-40 alkylaryl group or, optionally, a metal ion Mn<sup>n+</sup> with n being an integer from 1 to 8; the free valences of the silicate oxygen atoms are saturated by one or more of: silicon atoms of other groups in the formula (I), hydrogen, a linear or branched C1-12 alkyl group or by crosslinking agents from the group of R3qM1(OR2)<sub>m</sub>O<sub>k</sub>/2 or Al(OR2)<sub>3-p</sub>O<sub>p</sub>/2 or R3Al(OR2)<sub>2-r</sub>O<sub>r</sub>/2, where M1 is Si or Ti, R2 is a linear or branched C1-12 alkyl group, R3 is a linear or branched C1-6 alkyl group, k is an integer from 1 to 4 and q and m are integers from 0 to 2, so that m + k + q = 4, p is an integer from 1 to 3, r is an integer from 1 to 2, or other known oxo metal bridging systems; x, y and z are integers so that the ratio of x : (y + z), varies from 0.00001 to 100,000 with the fragments [O<sub>3</sub>/2SiCH(CH<sub>2</sub>PO(OR)(OR<sub>1</sub>))CH<sub>2</sub>CH<sub>2</sub>SiO<sub>3</sub>/2]<sub>x</sub> and [O<sub>3</sub>/2SiCH<sub>2</sub>CH<sub>2</sub>PO(OR)(OR<sub>1</sub>)]<sub>y</sub> always present, while the integer z varies from 0 to 200y. These compds. are useful as catalysts for a wide variety of reactions and have the advantages that they can be prepared in a one-pot reaction and the functional group loading can be tailored to be at a required level. The compds. have high chemical and thermal stability, fixed and rigid structures, are insol. in organic solvents, high resistance to aging, and can be easily purified and reused. Thus, trimethoxyvinylsilane and di-Et phosphite were reacted at 120-130° for 40 h in the presence of di-tert-Bu peroxide to produce di-Et ester of 2,4-di(trimethoxysilyl)butylphosphonic acid and di-Et ester of 2-(trimethoxysilyl)ethylphosphonic acid, which were hydrolytically copolymerd. in the presence of 1M aqueous HCl. The polymerization was

carried out at ambient temperature for 48 h followed by heating to 55° for 100 h to produce silsesquioxanes containing di-Et phosphonate groups, subsequently hydrolyzed in concentrated HCl to afford acidic phosphonic group-containing polymers useful as catalysts or ion exchangers.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 14:47:17 ON 17 SEP 2006)

FILE 'CAPLUS' ENTERED AT 14:47:30 ON 17 SEP 2006

L1 68 S (PRODUC? OR MAK? OR PREPAR? OR MANUFACTU? OR SYNTHESI?) (S) C  
L2 39 S L1 AND CATALYST  
L3 1 S L2 AND NAFION  
L4 2 S L2 AND POLYMER  
L5 1 S L4 NOT L3

FILE 'REGISTRY' ENTERED AT 14:54:18 ON 17 SEP 2006

E PHENYLSELENINIC ACID/CN  
L6 1 S E3  
E STYRENE/CN  
L7 1 S E3

FILE 'CASREACT' ENTERED AT 14:57:40 ON 17 SEP 2006

SET NOTICE DISPLAY 1  
SET NOTICE LOGIN DISPLAY

FILE 'CAPLUS' ENTERED AT 14:59:38 ON 17 SEP 2006

L8 1 S L2 AND SULFONIC ACID  
L9 0 S L8 NOT L3  
L10 1 S L2 AND SULFONIC

FILE 'REGISTRY' ENTERED AT 15:02:51 ON 17 SEP 2006

E BENZOIC ACID/CN  
L11 1 S E3  
E BENZALDEHYDE/CN  
L12 1 S E3  
E HYDROGEN PEROXIDE/CN  
L13 1 S E3

FILE 'CAPLUS' ENTERED AT 15:04:35 ON 17 SEP 2006

L14 3274 S L11/PREP  
L15 478 S L12 AND L13  
L16 70 S L14 AND L15  
L17 1 S L16 AND NAFION  
L18 0 S L17 NOT L3  
L19 1 S L16 AND SULFONIC  
L20 0 S L19 NOT L17  
L21 2 S L16 AND POLYMER  
L22 1 S L21 NOT L3

=> s (produc? or mak? or prepar? or manufactu? or synthesi?) (s) carboxylic acid  
4334207 PRODUC?  
960975 PRODN  
530 PRODNS  
961155 PRODN  
(PRODN OR PRODNS)  
4798273 PRODUC?  
(PRODUC? OR PRODN)  
694641 MAK?  
1683402 PREPAR?  
125397 PREP  
2201 PREPS  
127392 PREP  
(PREP OR PREPS)  
2032585 PREPD  
17 PREPDS  
2032597 PREPD  
(PREPD OR PREPDS)

128212 PREPG  
12 PREPGS  
128223 PREPG  
(PREPG OR PREPGS)  
2741868 PREPN  
205696 PREPNS  
2897028 PREPN  
(PREPN OR PREPNS)  
4809079 PREPAR?  
(PREPAR? OR PREP OR PREPD OR PREPG OR PREPN)  
606035 MANUFACTU?  
1048343 MANUF  
1473 MANUFS  
1049465 MANUF  
(MANUF OR MANUFS)  
234596 MANUFD  
182433 MANUFG  
1- MANUFGS  
182433 MANUFG  
(MANUFG OR MANUFGS)  
1441248 MANUFACTU?  
(MANUFACTU? OR MANUF OR MANUFD OR MANUFG)  
1528767 SYNTHESI?  
241610 CARBOXYLIC  
47 CARBOXYLICS  
241629 CARBOXYLIC  
(CARBOXYLIC OR CARBOXYLICS)  
4212489 ACID  
1540685 ACIDS  
4707010 ACID  
(ACID OR ACIDS)  
222553 CARBOXYLIC ACID  
(CARBOXYLIC(W)ACID)  
L23 87059 (PRODUC? OR MAK? OR PREPAR? OR MANUFACTU? OR SYNTHESI?) (S)  
CARBOXYLIC ACID

=> s 123 and aldehyde  
106747 ALDEHYDE  
103439 ALDEHYDES  
165451 ALDEHYDE  
(ALDEHYDE OR ALDEHYDES)  
L24 5118 L23 AND ALDEHYDE

=> s 124 and catalyst and polymer  
734947 CATALYST  
737630 CATALYSTS  
943403 CATALYST  
(CATALYST OR CATALYSTS)  
1085560 POLYMER  
883781 POLYMERS  
1463857 POLYMER  
(POLYMER OR POLYMERS)  
L25 101 L24 AND CATALYST AND POLYMER

=> s 125 and nafion  
9681 NAFION  
31 NAFIONS  
9685 NAFION  
(NAFION OR NAFIONS)  
L26 1 L25 AND NAFION

=> s 126 not 13

L27 0 L26 NOT L3

=> s 125 and sulfonic  
77329 SULFONIC  
20 SULFONICS  
77343 SULFONIC  
(SULFONIC OR SULFONICS)

L28 5 L25 AND SULFONIC

=> s 125 and sulfonic acid  
77329 SULFONIC  
20 SULFONICS  
77343 SULFONIC  
(SULFONIC OR SULFONICS)

4212489 ACID  
1540685 ACIDS  
4707010 ACID  
(ACID OR ACIDS)

72593 SULFONIC ACID  
(SULFONIC (W)ACID)

L29 5 L25 AND SULFONIC ACID

=> s 129 not 13

L30 4 L29 NOT L3

=> d 130 ibib ab 1-4

L30 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2006:821179 CAPLUS  
DOCUMENT NUMBER: 145:235864  
TITLE: Treatment composition comprising crosslinking agents and anti-hydrogen-bonding agents for making acquisition fluff pulp in sheet form  
INVENTOR(S): Hamed, Othman A.  
PATENT ASSIGNEE(S): USA  
SOURCE: U.S. Pat. Appl. Publ., 16pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006184147	A1	20060817	US 2005-58213	20050216
WO 2006088995	A2	20060824	WO 2006-US5417	20060216
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: US 2005-58213 A 20050216

AB The present invention relates to a treatment composition for making acquisition fluff pulp in sheet form, having a crosslinking agent and an anti-hydrogen-bonding agent. The crosslinking agent may be a

polycarboxylic acid, aldehyde, urea-based derivs. or a mixture thereof. The anti-hydrogen-bonding agent may be a silicon polymer terminated with at least one quaternary amine functional group. A method of making acquisition fluff pulp using the treatment composition involves treating a cellulosic base fiber with a treatment composition solution to impregnate the fiber with the treatment composition, and then drying and curing the impregnated fiber. The resultant acquisition fluff pulp may be utilized in an acquisition layer and/or an absorbent core of an absorbent article intended for body waste management.

L30 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 2005:430645 CAPLUS  
DOCUMENT NUMBER: 144:192198  
TITLE: Selective polymer-assisted product sequestration for the generation of combinatorial libraries of 1,3-thiazines  
AUTHOR(S): Strohmeier, Gernot A.; Reidlinger, Claudia; Kappe, C. Oliver  
CORPORATE SOURCE: Institute of Chemistry, Organic and Bioorganic Chemistry, Karl-Franzens University Graz, Graz, A-8010, Austria  
SOURCE: QSAR & Combinatorial Science (2005), 24(3), 364-377  
CODEN: QCSSAU; ISSN: 1611-020X  
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Combinatorial approaches for the solution-phase synthesis of diverse 1,3-thiazine-5-carboxylate libraries, e.g. I, are described. Knoevenagel condensation of  $\beta$ -ketoesters and aldehydes utilizing a polymer-supported catalyst furnished the anticipated enones, e.g. II, which were subsequently reacted with thioureas to generate 1,3-thiazine heterocycles among various byproducts. In the key step, the 1,3-thiazines were selectively sequestered by a polymer-bound sulfonic acid. Subsequent base-induced release from the polymer (catch and release) produced 24 1,3-thiazine products in yields up to 79%, good to excellent purities and in high diversity. In contrast to the polymer-bound acid-mediated reaction, this method tolerates more complex building blocks. Furthermore, polymer-assisted methods for N2-derivatization were performed, including reactions with activated carboxylic acids, sulfonyl chlorides and isocyanates.  
REFERENCE COUNT: 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L30 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN  
ACCESSION NUMBER: 1988:511777 CAPLUS  
DOCUMENT NUMBER: 109:111777  
TITLE: Phenolic resin foam compositions for thermal insulators  
INVENTOR(S): Kashima, Koichi; Nakamura, Tsutomu; Miyazaki, Yoshiyuki; Sasaki, Tetsuo; Shimada, Shigeru  
PATENT ASSIGNEE(S): Hodogaya Chemical Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
JP 63020338	A2	19880128	JP 1986-163887	19860714

PRIORITY APPLN. INFO.: JP 1986-163887 19860714  
AB Title compns. giving uniform foams with high mech. strength contain benzyllic ether-type phenolic resins (prepd. by treating phenols with aldehydes in the presence of metal salts of organic carboxylic acids and inorg. acids), polyisocyanates, aromatic sulfonic acids, blowing agents, and foam stabilizers. Thus, phenol 1200, 92% paraformaldehyde 540, Pb naphthenate 6, and Zn borate 1.2 parts were treated at 100° for 11 h to prepare a benzyllic ether-type phenolic resin [viscosity 40,000 cP (25°)], 100 parts of which was stirred with Tween 40 3, Freon R-11 10, 70% aqueous p-toluenesulfonic acid 20, and Millionate MR 200 (crude MDI) 10 parts, blown, and heated at 80-90° for 2-5 min to obtain a foam with d. 47.0 kg/m<sup>3</sup> and compressive strength 2.0 kg/cm<sup>2</sup>, showing no brittleness, friability or shrinkage.

L30 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1968:30721 CAPLUS

DOCUMENT NUMBER: 68:30721

TITLE: Hydrolysis of esters with polymer sulfonic acids. VIII. Hydrolysis of ethyl anthranilate with poly(vinyl butyral sulfonic acid)

AUTHOR(S): Sakurada, Ichiro; Ono, Tomiyoshi; Sakaguchi, Yasuyoshi

CORPORATE SOURCE: Univ. Kyoto, Kyoto, Japan

SOURCE: Kobunshi Kagaku (1966), 23(259), 853-8

CODEN: KOKAAM; ISSN: 0023-2556

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB For the hydrolysis of Et anthranilate (I), poly(vinyl butyral sulfonic acid) (II) is a more effective catalyst than HCl and poly(styrenesulfonic acid); the carboxylic acid produced by the hydrolysis with II shows an abnormally high pKa value. Some poly(vinyl acetal sulfonic acids), except II, acetal sulfonic acids of low-mol. polyhydric alcs., and benzaldehydesulfonic acid show similar behavior to that of II for hydrolysis of I. In the hydrolysis of I with HCl, addition of neutral aldehydes such as butyraldehyde accelerates the hydrolysis, and raises the pKa value of the carboxylic acid produced by the hydrolysis.

Me anthranilate and Me N-methylanthranilate are also more rapidly hydrolyzed with II than with HCl. Me N,N-dimethylanthranilate is rapidly hydrolyzed by autocatalysis even in the absence of a catalyst, and the carboxylic acid produced shows an abnormally high pKa value. During the hydrolysis of I with II, the aldehyde liberated from II forms a Schiff's base with amino groups of I, and the base hydrolyzes autocatalytically.